REMARKS

Drawings

By the Office Action dated February 19, 2009, the Examiner has objected to the Drawings. Specifically, the Examiner asserted that "Fig. 1 does not illustrate the steps within claim 10, wherein the 'most relevant feature terms' extracted are initially not 'most relevant' to anything during the fist step 10 of Fig. 1." (See Office Action, page 3.) Applicants respectfully note that step 10 in Figure 1, stating "Identify the most relevant feature terms from the document", illustrates the claim 10 element of "extracting from the document feature terms related to the features most relevant to the subject". Claim 10 does not include any feature where "the 'most relevant feature terms' extracted are initially not 'most relevant' to anything". Thus, Figure 1 does not have to illustrate such feature. Thus, Applicants respectfully submit that Figure 1 illustrates the claim 10 element of "extracting from the document feature terms related to the features most relevant to the subject" via step 10 in Figure 1.

Next, the Examiner asserted that "Fig. 1 does not demonstrate where/how a 'subject' 12 is defined, wherein there is no antecedent basis for step 12's 'subject'." (See Office Action, page 3.) Applicants respectfully note that step 12 in Figure 1, stating "Determine whether a sentence includes an opinion polarity on the subject", illustrates the claim 10 element of "for each sentence referring to the subject, determining whether the sentence includes an opinion polarity about the subject". 37 CFR 1.75(d)(1) requires that "the terms and phrases used in the claims must find clear support or *antecedent* basis". 37 CFR does not impose a requirement on the need for antecedent basis for terms or phrases in the drawings of a patent application. As such, the required antecedent basis for the claim 10 term of "subject" is provided by (i) the preamble of claim 10, which is "A method performed on a computer for extracting opinions about *a subject* of interest from a text document having a plurality of sentences, the subject associated with a plurality of features, the method comprising" and (ii) paragraph 12 of the Application, which states "It is an object of the present invention to provide a method and system for extracting opinions related to *a subject* of interest from a text document in which the opinions from individual sentences are taken into account rather than just the overall opinion of the document." Thus, Applicants respectfully submit that Figure 1 shows this claim 10

element of "for each sentence referring to the subject, determining whether the sentence includes an opinion polarity about the subject" via step 12 in Figure 1. Thus, Applicants respectfully submit that the Drawings comply with the requirements of the MPEP and 37 CFR.

35 U.S.C. § 101 Claim Rejections

By the Office Action dated February 19, 2009, the Examiner has rejected claim 10 under 35 U.S.C. § 101. Applicants have amended claim 10. Applicants respectfully submit that claim 10, as amended, complies with 35 U.S.C. § 101.

35 U.S.C. § 103 Claim Rejections

Claims 10, 12, and 14-17

By the Office Action dated February 19, 2009, the Examiner has rejected claim 10, 12, and 14-17 under 35 U.S.C. § 103(a) as being unpatentable over Boguraev et al (U.S. Patent No. 6,185,592) (hereinafter "Boguraev") in view of Chase (U.S. Patent No. 6,332,143) (hereinafter "Chase"). In order to form a proper obviousness rejection of a claim under 35 U.S.C. § 103(a), a collection of references together must teach or suggest each element of the claim, including the relationships between the elements. If any element is not fully taught by the combined references, the rejection cannot be sustained.

Evaluating Boguraev in view of Chase in this light, it is appropriate to examine the portions of Boguraev in view of Chase that the Examiner has pointed to as teaching the claimed elements of the rejected claims.

Claim 10

The Examiner asserted that

> [r]e claim 10, Boguraev teaches a method for extracting opinions about a subject of interest from a text document having a plurality of sentences, the subject associated with a plurality of features (Col. 10 line 19 – Col. 11 line 26), the method comprising:
> extracting from the document feature terms (Col. 5 lines 1-8) related to the features most relevant to the subject (Col. 10 line 19 – Col. 11 line 26);
> for each sentence referring to a feature term (Col. 10 line 19 – Col. 11 line 26), determining whether the sentence includes an opinion

polarity about the feature term; an
for each sentence referring to the subject (Col. 10 line 19 – Col. 11 line 26), determining whether the sentence includes an opinion polarity about the subject,
wherein the determining comprises
identifying opinion terms in the sentence using an opinion dictionary, each entry in the dictionary having an opinion term, a part-of-speech tag, and an associated opinion polarity,
for each sentence having a feature term and an opinion term, parsing the sentence with an English parser to identify grammatical components in the sentence and relationships between said components (Col. 10 line 19 – Col. 11 line 26), and
identifying an opinion polarity associated with said feature term using the opinion dictionary
.

(See Office Action, pages 5-6.)

The Examiner admitted that

Boguraev fails to teach
determining whether the sentence includes an opinion polarity about the feature term
identifying opinion terms in the sentence using an opinion dictionary, each entry in the dictionary having an opinion term, a part-of-speech tag, and an associated opinion polarity
identifying an opinion polarity associated with said feature term using the opinion dictionary
.

(See Office Action, page 6.) The Examiner then asserted that

> Chase teaches one denotative field is assigned to the word or phrase. A second denotative field is assigned to the denotative context (dictionary meaning) of the word or phrase. A third denotative field is assigned to the part of speech. Preferably, each context of each word is assigned a separate database record. Thus, if the dictionary definition of a single word has two meanings among a total of five denotative contexts, then there are five records, one for each context. There may be multiple contexts for a given dictionary meaning when, for example, there are different parts of speech for the word/meaning. (Chase Col. 7 lines 23-43).

(See Office Action, page 7.)

The Examiner next asserted that

> Chase teaches connotative meanings for any given term are identified from a range of emotional descriptor terms. There are a plurality of predefined categories of emotional descriptors. In one embodiment described below for the English language there are 8 categories. In the preferred embodiment there are four categories of positive emotions (e.g., affection/friendliness, enjoyment/elation, amusement/excitement and contentment/gratitude) and four categories of negative emotions (e.g., sadness/grief, anger/loathing, fear/uneasiness, and humiliation/shame). Within each category there are a predefined list of emotional descriptors. A term may have a connotative meaning in any or all of the emotional categories. Some terms may not have any connotative meaning. In some embodiments only one emotional descriptor is permitted to be assigned for a given emotional category for a given term. Thus, for an eight category embodiment, any term can have 0 to 8 emotional descriptors—the emotional descriptors being from different emotional categories. In other embodiments a primary and a secondary emotional descriptor

> may be assigned for any given term. For such an embodiment, which is based on 8 emotional categories, any term can have 0-16 emotional descriptors—the emotional descriptors being in pairs, where the two emotional descriptors in a given pair being for a given emotional category. Different pairs include emotional descriptors for different emotional categories (Chase Col. 41 lines 9-36 & Fig. 4-7).

(See Office Action, pages 7-8.)

The Examiner then asserted that "Chase teaches word relationship with one another, wherein one term will describe another term (i.e. lonely people) within the context of the emotion of a document (Fig. 6 and 7)." (See Office Action, page 8.)

The Examiner finally asserted that

> [t]herefore, it would have been obvious to one of ordinary skill in the art at the time of the invention to modify the system of Boguraev to incorporate determining whether the sentence includes an opinion polarity about the feature term, identifying opinion terms in the sentence using an opinion dictionary, each entry in the dictionary having an opinion term, a part-of-speech tag, and an associated opinion polarity, identifying an opinion polarity associated with said feature term using the opinion dictionary as taught by Chase to allow for an overall summary of a document both topically and emotionally from a narrow or global analysis, wherein the relationship of words to one another allows for the proper identification of emotion/opinion of a document (Chase Col. 41 lines 9-36).

(See Office Action, page 8.)

To the extent the Examiner's language at pages 5-8 of the Office Action can be understood, it appears that the Examiner has asserted the following correspondence between Boguraev and Chase and claim 10:

Claim 10	**Boguraev**	**Chase**
10. A method for	Boguraev does not teach	Chase does not teach this

extracting *opinions* about a subject of interest from a text document having a plurality of sentences, the subject associated with a plurality of features, the method comprising:	this claim element.	claim element.
extracting from the document feature terms related to the features most relevant to the subject;	-	Chase does not teach this claim element.
for each sentence referring to a feature term, determining whether the sentence includes an *opinion* polarity about the feature term; and	**Boguraev does not teach this claim element.**	**Chase does not teach this claim element.**
for each sentence referring to the subject, determining whether the sentence includes an *opinion* polarity about the subject,	**Boguraev does not teach this claim feature.**	**Chase does not teach this claim element.**
wherein the determining comprises		
identifying *opinion* terms in the sentence using an *opinion* dictionary, each entry in the	**Boguraev does not teach this claim feature.**	**Chase does not teach this claim feature.**

dictionary having an *opinion* term, a part-of-speech tag, and an associated *opinion* polarity,		
for each sentence having a feature term and an *opinion* term, parsing the sentence with an English parser to identify grammatical components in the sentence and relationships between said components, and	**Boguraev does not teach this claim feature.**	**Chase does not teach this claim feature.**
identifying an *opinion* polarity associated with said feature term using the *opinion* dictionary.	**Boguraev does not teach this claim feature.**	**Chase does not teach this claim feature.**

In reviewing the cited portions of Boguraev and Chase, however, it becomes apparent that Boguraev and Chase have been generalized, and, in fact, do not support the position asserted by the Examiner.

for each sentence referring to a feature term, determining whether the sentence includes an *opinion* polarity about the feature term

In particular, Boguraev and Chase, alone or in combination, fail to teach or suggest "for each sentence referring to a feature term, determining whether the sentence includes an *opinion* polarity about the feature term", as required by claim 10. The Examiner admitted that "Boguraev fails to teach determining whether the sentence includes an opinion polarity about the feature term". (See Office Action, page 6.) In addition, Boguraev does not disclose or mention "*opinion* polarity" or "*opinion*" at all. Thus, Boguraev cannot teach or

suggest "for each sentence referring to a feature term, determining whether the sentence includes an *opinion* polarity about the feature term". Chase also does not disclose or mention "*opinion* polarity" or "*opinion*" at all. Thus, Chase cannot teach or suggest "for each sentence referring to a feature term, determining whether the sentence includes an *opinion* polarity about the feature term". Therefore, Boguraev and Chase, alone or in combination, cannot teach or suggest the claim 10 element of "for each sentence referring to a feature term, determining whether the sentence includes an *opinion* polarity about the feature term".

for each sentence referring to the subject, determining whether the sentence includes an *opinion* polarity about the subject

In particular, Boguraev and Chase, alone or in combination, fail to teach or suggest "for each sentence referring to the subject, determining whether the sentence includes an *opinion* polarity about the subject", as required by claim 10. The Examiner admitted that "Boguraev fails to teach determining whether the sentence includes an opinion polarity about the feature term". (See Office Action, page 6.) In addition, Boguraev does not disclose or mention "*opinion* polarity" or "*opinion*" at all. Thus, Boguraev cannot teach or suggest "for each sentence referring to the subject, determining whether the sentence includes an *opinion* polarity about the subject". Chase also does not disclose or mention "*opinion* polarity" or "*opinion*" at all. Thus, Chase cannot teach or suggest "for each sentence referring to the subject, determining whether the sentence includes an *opinion* polarity about the subject". Therefore, Boguraev and Chase, alone or in combination, cannot teach or suggest the claim 10 element of "for each sentence referring to the subject, determining whether the sentence includes an *opinion* polarity about the subject".

identifying *opinion* terms in the sentence using an *opinion* dictionary, each entry in the dictionary having an *opinion* term, a part-of-speech tag, and an associated *opinion* polarity

Further, Boguraev and Chase, alone or in combination, fail to teach or suggest "identifying *opinion* terms in the sentence using an *opinion* dictionary, each entry in the dictionary having an *opinion* term, a part-of-speech tag, and an associated *opinion* polarity", as required by claim 10. The Examiner admitted that "Boguraev fails to teach . . . identifying opinion terms in the sentence using an opinion dictionary, each entry in the

dictionary having an opinion term, a part-of-speech tag, and an associated opinion polarity". (See Office Action, page 6.) In addition, Boguraev does not disclose or mention "*opinion* terms", "*opinion* dictionary", "*opinion* term", "*opinion* polarity", or "*opinion*" at all. Thus, Boguraev cannot teach or suggest "identifying *opinion* terms in the sentence using an *opinion* dictionary, each entry in the dictionary having an *opinion* term, a part-of-speech tag, and an associated *opinion* polarity". Chase also does not disclose or mention "*opinion* terms", "*opinion* dictionary", "*opinion* term", "*opinion* polarity", or "*opinion*" at all. Thus, Chase cannot teach or suggest "identifying *opinion* terms in the sentence using an *opinion* dictionary, each entry in the dictionary having an *opinion* term, a part-of-speech tag, and an associated *opinion* polarity". Therefore, Boguraev and Chase, alone or in combination, cannot teach or suggest the claim 10 element of "identifying *opinion* terms in the sentence using an *opinion* dictionary, each entry in the dictionary having an *opinion* term, a part-of-speech tag, and an associated *opinion* polarity".

for each sentence having a feature term and an *opinion* term, parsing the sentence with an English parser to identify grammatical components in the sentence and relationships between said components

In addition, Boguraev and Chase, alone or in combination, fail to teach or suggest "for each sentence having a feature term and an *opinion* term, parsing the sentence with an English parser to identify grammatical components in the sentence and relationships between said components," as required by claim 10. Boguraev does not disclose or mention "*opinion* term". Thus, Boguraev cannot teach or suggest "for each sentence having a feature term and an *opinion term,* parsing the sentence with an English parser to identify grammatical components in the sentence and relationships between said components". Chase also does not disclose or mention "*opinion* term". Thus, Chase cannot teach or suggest "for each sentence having a feature term and an *opinion term,* parsing the sentence with an English parser to identify grammatical components in the sentence and relationships between said components". Therefore, Boguraev and Chase, alone or in combination, cannot teach or suggest the claim 10 element of "for each sentence having a feature term and an *opinion term,* parsing the sentence with an English parser to identify grammatical components in the sentence and relationships between said components".

identifying an *opinion* polarity associated with said feature term using the *opinion* dictionary

In addition, Boguraev and Chase, alone or in combination, fail to teach or suggest "identifying an *opinion* polarity associated with said feature term using the *opinion* dictionary," as required by claim 10. The Examiner admitted that "Boguraev fails to teach a dictionary or similar table having an opinion term and an associated polarity." (See Office Action, page 4.) In addition, Boguraev does not disclose or mention "*opinion* dictionary", "*opinion* polarity", or "*opinion*" at all. Thus, Boguraev cannot teach or suggest "identifying an *opinion* polarity associated with said feature term using the *opinion* dictionary". In addition, Chase does not disclose or mention "*opinion* dictionary", "*opinion* polarity", or "*opinion*" at all. Thus, Chase cannot teach or suggest "identifying an *opinion* polarity associated with said feature term using the *opinion* dictionary". Therefore, Boguraev and Chase, alone or in combination, cannot teach or suggest the claim 10 element of "identifying an *opinion* polarity associated with said feature term using the *opinion* dictionary". It is therefore clear that Boguraev and Chase, alone or in combination, cannot teach or suggest each element of claim 10 and, therefore, a rejection of claim 10 under 35 U.S.C. § 103(a) would be inappropriate.

Claim 12

Since dependent claim 12 depends on claim 10 and since Boguraev and Chase, alone or in combination, cannot teach or suggest each element of claim 10, Boguraev and Chase, alone or in combination, cannot teach or suggest each element of claim 12, and, therefore, a rejection of claim 12 under 35 U.S.C. § 103(a) is inappropriate.

Claims 14 and 15

Since dependent claims 14 and 15 depend on dependent claim 12 and since Boguraev and Chase, alone or in combination, cannot teach or suggest each element of claim 12, Boguraev and Chase, alone or in combination, cannot teach or suggest each element of claim 14 or claim 15, and, therefore, a rejection of claim 14 or claim 15 under 35 U.S.C. § 103(a) is inappropriate.

Claims 16 and 17

Since dependent claims 16 and 17 depend on dependent claim 15 and since Boguraev and Chase, alone or in combination, cannot teach or suggest each element of

claim 15, Boguraev and Chase, alone or in combination, cannot teach or suggest each element of claim 16 or claim 17, and, therefore, a rejection of claim 16 or claim 17 under 35 U.S.C. § 103(a) is inappropriate.

Conclusion

It is therefore clear that the drawings and claims 10, 12, and 14-17 comply with the requirements of 37 CFR and 35 U.S.C. §§ 101, 102, 103, and 112. The application is therefore in condition for allowance. Early notification to that effect is respectfully solicited.

In the event that any issue remains unresolved, the Examiner is invited to telephone the undersigned at 408-927-3377.

Respectfully Submitted,

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